New Jersey Energy Master Plan Strategy Template 2006-2020

SUBMITTED BY

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Introduction

Many states that restructured in the late 1990s and early 2000s are now struggling with the pricing repercussions of a wholesale market design that tends to favor capital investment in natural gas-fired generation, that prices energy in a majority of hours at or above the converted cost of spot natural gas prices, and that captures any efficiency gains in the form of producer surplus rather than consumer surplus. As a consequence of this design and the inability of markets to overcome fully the high concentration of generation ownership and the combined ownership of generation and transmission, electricity prices for customers in restructured states have hit, or will soon hit, historical highs and will continue to get worse. As Gerdau Ameristeel experienced first-hand when it was forced to cease melt shop operations at its electric arc furnace in Perth Amboy, New Jersey, in part due to high electricity prices, continued prices at these levels will devastate New Jersey's manufacturing base and impact the very affordability of electricity for underprivileged and elderly households.

Gerdau Ameristeel encourages New Jersey to engage proactively and immediately in the development of both short-term and long-term strategies to hedge the risks associated with volatile and unforgiving wholesale market design experiments. New Jersey's approach should be multi-faceted, encompassing all aspects of energy supply, energy delivery, and energy consumption. New Jersey's approach should learn from, and build on, the efforts of other states in "organized" markets.

Gerdau Ameristeel provides this strategy template for the purpose of stimulating full discussion and creativity as New Jersey casts its action plan for urgently addressing New Jersey's electricity challenges. While the October 3 outline for the Energy Master Plan provides useful direction in terms of renewable energy sources and energy conservation measures, the Plan must be broadened significantly if it hopes to capture all viable alternatives for ensuring that New Jersey enjoys adequate electricity supply and deliverability in the years to come.

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The BPU, in conjunction with other New Jersey state agencies, the PJM Market Monitoring Unit ("MMU"), and PJM Staff, should engage in regular analyses of New Jersey's generation and transmission infrastructure relative to projections of load growth. The BPU process should seek input from New Jersey stakeholders. Through these analyses, the BPU should identify in-state needs for generation and transmission, and the impediments to timely capital deployment for new generation and transmission projects in New Jersey. If the BPU determines that barriers to entry exist and cannot be overcome, or that other fundamental indicia of competitive markets are not present in New Jersey, then the BPU should actively engage in efforts to cease the "price-signal aspects" of existing market designs.

Strategy

If the Reliability Pricing Model ("RPM") settlement is approved by FERC, the PJM MMU will be obligated to investigate barriers to market entry by new generation or transmission, particularly in perennially constrained areas like New Jersey. The MMU's assessment will be included in the MMU's annual State of the Market Report. In addition, "A forum shall be established for discussion dedicated to increase coordination among PJM, state siting authorities, regulatory commissions, and PJM stakeholders to identify, evaluate, and hopefully rectify, any barriers to entry of investment in generation, transmission, and demand response."

While these approaches provide a useful starting point, they will not necessarily focus on New Jersey's heavy reliance on imported energy. Accordingly, the BPU should initiate regular analyses of generation and transmission needs relative to projected load growth. Part of these analyses must be a New Jersey-specific investigation and "root cause analysis" of the underinvestment in electricity industry infrastructure in New Jersey. The investigation and analysis should include proper notice and an adequate opportunity for all industry stakeholders to be heard on the issue, and should provide for the opportunity to engage in full discovery of the investment practices of New Jersey utilities, including but not limited to their investment (or lack of investment) in transmission upgrades and expansions and the relationship of their investment strategy to affiliate ownership in generation. All generation technologies, including nuclear and various types of clean coal technologies, should be evaluated.

The analysis should determine if market forces in New Jersey and the existing PJM "market" design are sufficient to enable timely and fuel-diverse investment in generation capacity and transmission. If not, then New Jersey must consider alternatives, including those suggested below, to facilitate necessary investment.

Responsible Party

The BPU should initiate these periodic proceedings and issue orders with its findings and recommendations.

Timeline of Action

The BPU should undertake the first investigation and root cause analysis as soon as possible, and issue its findings and conclusions no later than 120 days after commencement of each proceeding. Also, BPU coordination with PJM Staff and the PJM MMU must occur on a regular basis, beginning as soon as possible.

Strategy outcome

The investigation and root cause analysis should isolate the reasons for under-investment in New Jersey, and identify approaches for overcoming these barriers.

Implementation cost

Because the investigation and root-cause analysis would occur in the form of an open, contested, on-the-record proceeding, existing staff and resources should suffice. At most, the BPU may need to retain qualified outside consultants to assist in the analyses.

Source of Funding

Any procurement of outside consultants would be funded in the same manner as outside consultants are funded for other BPU proceedings.

Indicators

The depth and detail of the BPU's findings and recommendations would be the appropriate measures of success for this first step. Full exploration of the nexus between generation and transmission ownership, and any investment impediments that result from that joint ownership, is one particular measure of success.

Supplement energy efficiency and renewable generation objectives with larger-scale, viable, and environmentally compatible generation technologies to meet New Jersey's present and growing need for long-term generation supply.

Strategy

The Energy Master Plan outline suggests that initiatives on renewable generation and energy efficiency will be sufficient to satisfy New Jersey's growing demand for energy. Practical reality, however, indicates that these initiatives will be inadequate to meet the gap between total demand for electric energy and the sum of in-state and imported electric energy. The Energy Master Plan must evidence New Jersey's long-term commitment to substantially reduce or, if cost-effective, completely eliminate its dependence on energy imports. Accomplishing this objective will require New Jersey to facilitate the siting and permitting of new generation resources, such as clean coal and nuclear, that will be needed to satisfy long-term demand projections and complement the state's renewable energy objectives. These initiatives are also necessary in light of recent and impending generator retirements, such as PSEG Power's plans to retire its Sewaren and Hudson 2 units as soon as PJM allows it to do so.

Given that the siting and permitting approval process associated with new generation is a significant hurdle to the deployment of capital in fuel-diverse and size-diverse generation, New Jersey should procure and approve new generation sites and then auction those pre-approved and pre-permitted sites to prospective generation developers. The bids in that auction would include not only return of and on the state's investment in those sites, but would include return of and on the capital investment necessary for the generation project, in exchange for a guaranteed hourly capacity factor and actual energy output at cost up to that limit. Energy produced up to the bid capacity factor would be provided to New Jersey customers at actual cost. To ensure robust operation and strong output, any energy produced in excess of the bid capacity factor in any given hour could be sold into the wholesale market, and the developer could receive the benefit of those sales. Financial penalties would be assessed for under-performance in any hour. The arrangement should take into account the need for scheduled maintenance outages, emissions limits, and other non-negotiable factors that are beyond the operator's control.

Other states in the Mid-Atlantic and New England regions have recently taken steps to engage more proactively in the development of generation within their states. *See*, *e.g.*, http://www.delcode.state.de.us/title26/c010/index.htm#P286_42189 (Delaware); http://www.dpuc.state.ct.us/Electric.nsf/bb23886a033a7ef28525713c000031d4/f071135b2c7680 http://www.dpuc.state.nsf/bb23886a033a7ef28525713c000031d4/f071135b2c7680 <a href="http

Implementation cost

The facilitation of the siting and permitting of new generation should not require significant expenditures by the state. Those New Jersey agencies with that responsibility now would continue in their functions. The acquisition of generation sites would require state funds on a short-term basis, to be recovered upon the auctioning of the site in conjunction with the awarding of the long-term, tariff-backed arrangement. Because cost recovery would occur through tariff-

backed, regulatory arrangements, the state would not need to be a counter-party to any transaction except the sale of the pre-approved, pre-permitted site.

Responsible Party

All state and local government bodies that must be involved in the siting and permitting of new generation should collaborate in the identification of feasible generation plant sites and commence the process of streamlining the approvals necessary to obtain and permit those new generation sites. For the actual procurement and subsequent auctioning of the generation sites, the necessary government procurement agencies and specialized generation consultants will need to be involved.

Timeline of action

Absent new investment, New Jersey may experience gaps between supply and demand as soon as 2009 and is already experiencing high and volatile energy prices as a direct result of the dearth of generation resources in New Jersey and its continued dependence on energy imports. Consequently, New Jersey should engage in this process immediately, preferably even prior to adoption of the final Energy Master Plan.

Strategy outcome

The outcome of this process should be the construction of highly efficient and environmentally compatible baseload and intermediate generation that provides energy at actual production costs, while providing the developer with a tariff-backed opportunity to recover a reasonable return of and on its investment.

Source of Funding

Any incremental funding for New Jersey state agency involvement would come from taxpayer funds. The ultimate investment in the generation site and the generator itself would come from private sector funds. Revenue to the generation owner for cost-based sales of power would be recovered from ratepayers.

Indicators

- Number of permitted and approved sites made available for auction
- Number of available sites that were successfully auctioned
- Number of new generators that were actually developed through this process

Eliminate certain, and substantially reduce other, state-imposed elements of electricity and natural gas prices.

Strategy

Gerdau Ameristeel currently pays millions of dollars each year at its Sayreville and Perth Amboy facilities for Sales and Use Tax ("SUT"), the Transitional Energy Facilities Assessment ("TEFA"), and the Societal Benefits Charge ("SBC"). These charges are not connected to the underlying costs of energy supply or delivery, and impede Gerdau Ameristeel's global competitiveness. Also, these charges are levied on a kilowatt-hour basis, which disproportionately impacts high-volume electricity and natural gas users like Gerdau Ameristeel.

New Jersey could make large strides in its economic development initiatives by eliminating certain, and substantially reducing other, state-imposed charges for large-volume, energy-intensive employers in the state.

- SBC: The SBC is actually comprised of several individual charges, some addressing low-income needs and others addressing renewable energy and demand-side management ("DSM") initiatives. Gerdau Ameristeel recognizes and does not intend to shirk its corporate citizen responsibilities with respect to the low-income assistance components of the SBC, but urges state officials to allocate the costs of such programs on the basis of customer capacity obligations, not energy consumption, to make the payment responsibilities for such programs more equitable. The state must understand that continuing to impose inequitable mandates on manufacturers detracts from their competitiveness and may actually exacerbate the need for such low-income programs. Cost allocation for other SBC components should similarly occur on the basis of customer capacity obligations, both as a matter of equity and to recognize that capacity obligations are a direct indicator of the extent to which customers self-engage in DSM. Notably, capacity obligations are driven by individual customer's load contributions to system peaks, which can be minimized by load reductions during those hours. Allocating DSM and other SBC component costs on the basis of capacity obligations also avoids the "double-payment" (once for the lost production costs of engaging in DSM, and again by virtue of the kWh-based allocator of SBC charges) that is now occurring. An alternative, albeit substantially less desirable, is to allow large-volume. energy-intensive customers to self-invest the DSM dollars that they would otherwise pay through a kWh-based SBC. These investments could be focused on energy efficiency and demand response, which are stated objectives of the state-based programs that are funded by the SBC. This alternative would ensure that the benefits of the SBC expenditure are inuring, at least in part, to New Jersey's large customers and would complement the state's economic development goals.
- <u>SUT</u>: Legislation was signed into law last year that exempts manufacturers in urban enterprise zones ("UEZ") in New Jersey from the SUT, provided they employ a minimum number of employees. On October 23, 2006, new legislation was introduced to exempt additional manufacturers from the SUT for a 7-year period (see S.2272 (Coniglio)). Although S.2272 needs to be expanded to include <u>all</u> New Jersey

manufacturing locations, it provides a useful starting point for the elimination of the SUT burden from New Jersey manufacturers. These efforts should be pursued in earnest.

• <u>TEFA</u>: In its original form, the TEFA was designed by law to be transitional. Obviously, the end of the transition period did not occur on schedule and the TEFA has been extended indefinitely. Legislation to end the TEFA transition period should be passed, with a particular emphasis on the rapid phase-out and elimination of the TEFA for New Jersey manufacturers.

Responsible Party

A manufacturing exemption from the SUT and TEFA, and changes to the way in which the SBC is recovered from customers, would require statutory changes.

Timeline of Action

We expect that enacting manufacturer exemptions from the SUT and TEFA, and cost allocation changes to the SBC, would follow the timeline associated with other statutory changes. We would expect the changes to be self-implementing, so that manufacturers would experience immediate relief upon passage of the legislation.

Strategy outcome

Elimination of the SUT and TEFA for manufacturers, and changes to the allocation of SBC costs would immediately establish greater parity among the regulated and state-imposed charges paid by manufacturers in New Jersey and those paid by their competitors in other U.S. states.

Implementation cost

Gerdau Ameristeel does not have the data to calculate the potential revenue loss to the state associated with the elimination of SUT and TEFA, but expects that it would be less than the loss of state and local tax revenue that would occur if a manufacturer were to cease operations, like Gerdau Ameristeel was forced to do with the melt shop at its Perth Amboy facility. To the extent that SBC-funded program costs for manufacturers are much less than the SBC revenue being derived from manufacturers, then what is being reduced by Gerdau Ameristeel's proposed changes is actually the cross-class subsidization that is occurring now.

Source of Funding

The "funding" that would be required is the restoration of tax and SBC revenue that would have been received from manufacturers if the legislation had not been enacted and if the manufacturers would have remained sufficiently viable to continue contributing to the tax and SBC revenue base. Consequently, the funding may be minimal. Any "lost" revenues may need to be recovered through other tax sources, program cuts, or reallocation.

Indicators

Retention of existing manufacturers and attraction of new manufacturers are the generic benchmarks against which the relative success of this initiative can be measured. Questionnaires, combined with a legal reporting obligation, may be the optimal approach for gleaning necessary data.

New Jersey BPU staff and other New Jersey government representatives should engage regularly and consistently in the PJM stakeholder process and in proceedings before the Federal Energy Regulatory Commission ("FERC") that impact the price and availability of electricity to New Jersey customers.

Strategy

PJM, the regional grid operator, regularly holds stakeholder meetings to address PJM market rules, transmission planning, and related issues. New Jersey BPU Staff has participated occasionally in PJM stakeholder meetings. Proposals developed through the PJM stakeholder process typically involve changes to the PJM Operating Agreement, PJM Open Access Transmission Tariff, and/or the PJM Reliability Assurance Agreement and, thus, require FERC approval. Shortly after PJM files any such proposal with FERC, all parties have an opportunity to file comments or a protest on the filing, and to participate fully in any evidentiary hearing, settlement judge process, or other forum that results from that filing. The New Jersey BPU occasionally files comments or a protest of a PJM filing, but has not been as vocal as other state commissions in the PJM footprint.

The strategy would involve dedicating at least one BPU full-time employee ("FTE") to the PJM stakeholder process, to serve as a liaison between the Board and PJM stakeholders and to argue the Board's position as issues arise. The strategy would also involve the dedication of one Deputy Attorney General or retention of outside counsel, or both, to ensure that the BPU proactively engages in all FERC proceedings that implicate New Jersey's and New Jersey customers' interests. BPU commissioners should meet regularly with each FERC commissioner to pursue alignment of state and federal objectives. The BPU FTE should also ensure a process exists to receive feedback from New Jersey customers on specific PJM and FERC-related issues.

Responsible Party

The BPU would have primary responsibility for establishing and filling the PJM stakeholder representative position and for making the necessary arrangements to ensure either state attorney or outside counsel representation in FERC proceedings.

Timeline of Action

Because the BPU has been partially engaged in both PJM and FERC processes, implementation of these additional steps could be completed quickly.

Strategy outcome

New Jersey has been lagging behind other PJM states' presence in the PJM stakeholder process and in FERC proceedings. If the recommendation is implemented successfully, PJM and FERC will regularly look to New Jersey for direction on "wholesale" market issues that directly affect New Jersey customers. The BPU would also be in position to more effectively and proactively address the wholesale-related risks and costs that have been and are currently adversely affecting New Jersey's electricity consumers.

Implementation cost

This recommendation could be accomplished through redeployment and refocusing of existing personnel. Alternatively, the BPU may need to hire one or two mid-level FTEs to fulfill these responsibilities.

Source of Funding

Any additional costs should be funded as part of the BPU budget.

Indicators

Quantifying the effectiveness of the BPU's engagement may be challenging. Success will need to be measured qualitatively via regular comparisons between the positions advocated by the BPU in PJM stakeholder processes and the substantive outcome of those processes, and between the positions advocated by the BPU in FERC proceedings and the substantive outcome of those proceedings.

Supplement existing PJM economic and emergency load response initiatives with New Jersey-specific programs.

Strategy

PJM has in place, both on an integrated basis with other market rules and on a stand-alone basis in several instances, initiatives to compensate demand response, at locational marginal prices, for a small portion of the substantial value they create for other customers in the PJM region by reducing market-clearing prices in the Day-Ahead and Real-Time markets. The administrators of SBC funds should explore opportunities to make the PJM initiatives more attractive to large customers, on a case-by-case cost-benefit basis. The SBC administrators should also explore program supplements that are conducive to residential and commercial customer participation, with special emphasis on achieving demand reductions during high-priced peak load hours, when those customers typically place their largest loads on the system. Even minimal participation during high-priced hours can substantially reduce LMPs during those hours and reduce the cost of hedging products going forward. As long as payments to demand response participants are lower that the cost savings achieved through the reduction of demand, further investment in demand response is cost-justified from a consumer perspective.

Responsible Party

The administrators of the SBC programs should focus on these activities.

Timeline of Action

Evaluation of supplemental demand response programs should commence immediately, with a target implementation date no later than six months after the Energy Master Plan goes into effect.

Strategy outcome

Demand response initiatives supplemental to those administered by PJM will enable a more robust response by large customers to high, real-time market prices. Supplemental initiatives will also enable a return on the investments that residential and small commercial customers typically need to make to facilitate their response.

Implementation cost

If the supplemental initiative paid 500 MWs of load \$250/MWh for 100 hours, the total cost would be \$12.5 million annually state-wide. One would expect that the corresponding direct reduction in LMP, and reduction in the cost of LMP hedging products, for New Jersey Customers would be multiples of this amount.

Source of Funding

All funds for these initiatives would come from a reallocation of existing SBC dollars. Any expenditures above and beyond these amounts would need to be justified on a strict cost-benefit basis.

Indicators

With market offer data from PJM (to reconstruct a supply curve for each hour in which these supplemental initiatives are triggered), SBC administrators can calculate a cost-benefit ratio for the investment. If the combination of the direct LMP reduction plus the reduction in risk-hedging instruments resulting from that reduction do not exceed the supplemental program investment, then the level of investment or the types of recipients should be reconsidered.

Eliminate and reverse cross-class subsidization that is artificially inflating industrial customer rates and placing them at a significant disadvantage relative to intra-company and inter-company competitors in other U.S. states and abroad.

Strategy

Many of the rates that industrial customers pay for electricity and natural gas heavily subsidize residential customer classes. Moreover, all statutory charges (e.g., SBC, TEFA) and all transition charges are assessed on a volumetric basis rather than on a demand or customer basis. The cross-subsidization principle that pervades New Jersey's electricity and natural gas charges places industrial customers at a significant disadvantage relative to industrial customers in other U.S. states and in the European Union. As an example, an average electricity price for industrial customers in the European Union is 5.69 euros, compared to an average electricity price for households of 12.37 euros. See, e.g.,

http://www.ec.europa.eu/dgs/energy_transport/figures/pocketbook/2005_en.htm at Tables 2.5.3 and 2.5.6 (last visited Nov. 13, 2006). In the United Kingdom, for example, average industrial electricity prices are 4.01 euros, compared to an average price of 8.37 euros for residential customers. Across-the-board, industrial electricity prices in Europe are less than half residential electricity prices, as a consequence of the European Union's and individual member country's conscious decisions not to unduly burden the competitiveness of their manufacturing base. Any perspective that New Jersey should benchmark its industrial customers' electricity and natural gas prices against those in Maryland, Pennsylvania, Delaware, and New York misses the point. Competition among manufacturers is global. If New Jersey is to have any chance of remaining globally competitive in its quest for high-paying and intellectually challenging employment for its citizens, it must abandon quickly its longstanding policy of requiring industrial customers to subsidize other customer classes.

As cost-based generation becomes eligible for tariff-based recovery, these anti-subsidization approaches must carry over into generation as well. Specifically, generation capacity/fixed costs should be allocated to customers based on their capacity obligations, as those capacity obligations are determined now for PJM purposes. Generation fuel and O&M costs for each hour should be charged to the customers that are relying on that energy during that hour.

This fundamental change in New Jersey's ratemaking philosophy could be implemented, in part, by the BPU in the way it currently approaches the allocation of distribution and certain transmission costs. Ideally, statutory changes would be implemented to safeguard against the potential for deviations from this approach occasioned by changes in Board composition. Statutory changes are also necessary to ensure that any state-imposed charges on manufacturers are consistently assessed on a customer or demand basis, not on a volumetric basis. Statutory changes should be accompanied by language that states clearly an overall objective of enhancing New Jersey manufacturers' global competitiveness, to stifle any attempts to circumvent the overarching intent.

Responsible Parties

The BPU and the New Jersey legislature.

Timeline of Action

We expect that statutory changes of this ilk would follow the timeline associated with other statutory changes. We would also expect that statutory changes would require prompt implementation by the BPU.

Strategy outcome

Existing natural gas and electricity rates for industrial customers include substantial amounts of cross-subsidization. Consequently, the changes proposed above would have a meaningful impact on enhancing industrial customers' global competitiveness.

Implementation cost

These initiatives involve changes in Board policy and statutory changes. There should be no implementation costs outside typical state budgets.

Source of Funding

None required.

Indicators

- New Jersey should routinely benchmark its industrial electricity and natural gas prices against those in all U.S. states, the European Union member countries, and other industrialized countries. This benchmarking will reveal the relative success or failure of initiatives to eliminate cross-subsidization.
- New Jersey should also solicit from manufacturers within the state, on a confidential basis, any information they have on the comparison of their New Jersey energy costs to energy costs at their other facilities, both here and abroad.